



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/507,117	09/10/2004	Hiroyuki Takahashi	029471-0168	4725
22428	7590	05/10/2007		
FOLEY AND LARDNER LLP SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			EXAMINER HUR, JUNG H	
			ART UNIT 2824	PAPER NUMBER
			MAIL DATE 05/10/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/507,117

Applicant(s)

TAKAHASHI ET AL.

Examiner

Jung (John) H. Hur

Art Unit

2824

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 2-37, 40, 42-48, 52 and 54-58 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-37, 40, 42-48, 52, 54 and 55 is/are allowed.
- 6) ☒ Claim(s) 56-58 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09 April 2007 has been entered.

2. It is noted that **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See the Conclusion section below.

### ***Amendment***

3. Acknowledgment is made of applicant's Amendment, filed 09 April 2007. The changes and remarks disclosed therein have been considered.

Claim 53 has been cancelled and claims 56-58 have been added by the above Amendment. Therefore, claims 2-37, 40, 42-48, 52 and 54-58 are pending in the application.

### ***Specification***

4. Claims 56 and 57 are objected to because of the following informalities:

Claim 56 should end with a period.

In claim 57, lines 2, the semicolon should be a colon.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 56 and 57 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 5,222,044 (Tsujimoto).

Regarding claims 56 and 57, Tsujimoto, for example in Figs. 5-8, discloses a semiconductor memory device comprising: a memory cell array having a plurality of memory cells arranged in an array form (M11-Mmn in Fig. 5); a voltage step down circuit (63) that receives a power supply voltage (Vext) and outputs a step down voltage (Vint in Fig. 8) that is lower than said power supply voltage (Vext); a voltage step up circuit (53a) that receives said step down voltage (Vint from 63 in Fig. 5) and outputs a step up voltage (Vh in Fig. 8); and a peripheral circuit (including 56, 58 and a word line driving circuit within 53) outputting a word line voltage (to WL1-WLm) and receiving said step up voltage (Vh from 53a within 53 in Fig. 5) and said power supply voltage (Vext at 56a and 56c in Figs. 5 and 7);

wherein said peripheral circuit comprising: a sense amplifier (among SA1-SAn in Figs. 5 and 6) amplifying a high level voltage of a selected bit line to said power supply voltage (Vext; see SENSE AMPLIFIER CIRCUIT in Fig. 8); and a word line driving circuit (within 53 in Figs.

5 and 7) driving a selected word line (among WL1-WLm) by the step up voltage (Vh; see WORD LINE in Fig. 8).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 58 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,222,044 (Tsujiimoto).

Regarding claim 58, Tsujiimoto discloses the semiconductor memory device according to claim 56, but does not expressly disclose a delay circuit being driven by said step down voltage.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to include a delay circuit in the peripheral circuit of Tsujiimoto (for example, for the pulse width and/or the transition timing of the output of 56b in Fig. 8 of Tsujiimoto), such that said delay circuit would be driven by the step down voltage (since 56b is driven by the step down voltage in Figs. 5 and 7 of Tsujiimoto), since use of a delay circuit for a pulse width or a transition timing was common and well known in the art.

***Allowable Subject Matter***

9. Claims 2-37, 40, 42-48, 52, 54 and 55 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 3, 10, 42, 45, 46 and 52 (and the corresponding dependent claims), the record of the prosecution as a whole makes clear the reasons for the indication of allowable subject matter.

### ***Response to Arguments***

10. Applicant did not present any argument with respect to the rejections in the previous Office Action.

### ***Conclusion***

11. All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 (i.e., the new claims 56-58 are drawn to the same invention claimed in the previous claims 52-55, filed 20 November 2006) and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114 (since the new claims 56-58 are broader in scope than the previous claims 52-55, filed 20 November 2006, particularly claim 55 which is most comprehensive in scope). Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

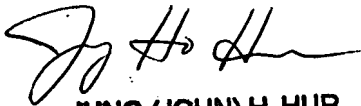
the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jung (John) H. Hur whose telephone number is (571) 272-1870. The examiner can normally be reached on M-F 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms can be reached on (571) 272-1869. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jhh

 5/6/07  
JUNG (JOHN) H. HUR  
PRIMARY PATENT EXAMINER